



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

James C. Feider
Designated Representative
Redding Electric Utility, City of Redding
777 Cypress Avenue
P.O. Box 496071
Redding, CA 96049-6071

Dear Mr. Feider:

This letter represents U.S. EPA's determination of applicability under §72.6(c) of the Acid Rain regulations for Redding Electric Utility's (AREU@) Redding Facility (ARedding@), Facility ID (ORISPL) 7307, in the City of Redding, California. This determination is in response to REU's letter of June 6, 2002 requesting a determination for three simple-cycle combustion turbines at Redding. In previous correspondence, the City of Redding has sought clarification on the status of other units at Redding. U.S. EPA is therefore addressing in this letter the applicability of the Acid Rain Program to all of the units at Redding.

Redding consists of a total of six units. Units 1, 2, and 3 are natural-gas-fired simple combustion turbines that commenced commercial operation in 1969, with nameplate capacities of 18 MW each. Units 4A and 4B are natural-gas-fired boilers that commenced commercial operation in 1994, headered to a single 30 MW steam turbine. Unit 5 is a natural-gas-fired combustion turbine that commenced commercial operation in April 2002, with a nameplate capacity of 43 MW and headered to the same 30 MW steam turbine as Units 4A and 4B. All of the units produce electricity for sale to residents of the City of Redding.

Unit 5 is "new unit," as defined in §72.2, because it commenced commercial operation on or after November 15, 1990, i.e., in 2002. It is undisputed that the unit does not qualify for any exemption from the Acid Rain Program and so is an affected unit under §72.6(a)(3)(i).

Units 4A and 4B are cogeneration units, as defined in §72.2. From their commercial operation until September 1990, the units produced steam that was used to generate electricity and then was used at a neighboring sawmill for dry kilns and other mill operations. After September 1990, the units were shut down for a period and then recommenced operation solely for the generation of electricity. Although the units are not now providing, and have not for several years provided, steam for the sawmill

or any other industrial or commercial use or for heating or cooling, the internal piping and valves for extraction of steam from the steam turbine are still in place. Thus, the units have “equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam) for industrial, commercial, heating or cooling purposes, through sequential use of energy” (40 CFR 72.2 (definition of cogeneration unit)) and are cogeneration units.¹

Under §72.6(b)(4)(i), cogeneration units that commenced construction before November 15, 1990 and were not built for the purposes of selling annually more than 219,000 MWe-hrs of electricity and 1/3 of their potential electrical output capacity (PEOC) are exempt from the Acid Rain Program. The regulations provides that in the absence of information about the purpose of their construction, actual sales during 1985-1987 will be treated as determinative of that purpose. Further, in order to remain exempt, such cogeneration units must continue not to sell, on a three year rolling average basis, more than 219,000 MWe-hrs of electricity and 1/3 of their potential electrical output capacity. Units 4A and 4B commenced construction in the late 1980's, and each unit has a PEOC of 20.3 MWe, with 1/3 of the PEOC equaling 59,276 MWe-hrs.² Since 1/3 of each unit's potential electrical output capacity is less than 219,000 MWe-hrs, the latter threshold is determinative of qualification for the exemption. Each unit could therefore sell up to 219,000 MWe-hrs of electricity per year during the first year of operation, and thereafter on a three year rolling average basis, without becoming subject to the Acid Rain Program. Records of electrical sales provided by REU indicate that neither unit has exceeded the 219,000 MWe-hr threshold in any year since commencing commercial operation. Therefore, both units are currently unaffected units.

If, however, for any three year calendar period, either Unit 4A or 4B provides more than 219,000 MWe-hrs of actual electrical output to a utility power distribution system for sale, then that unit will become an affected unit under §72.6(a)(3)(iv). As an affected unit, the unit will have to comply with all applicable requirements under the Acid Rain Program, including the requirements to apply for and receive

¹ EPA considers them cogeneration units under §72.2 even though they do not currently cogenerate. Not only, as noted above, does the “cogeneration unit” definition focus on the presence of equipment used for cogeneration, but also EPA maintains that in general a unit's status under the applicability criteria for the Acid Rain Program should not be based on a factor (here, whether the unit is, at a particular time, selling process steam) that can be altered prospectively by a unit's owners and operators. If the owners and operators could change the status of a unit by stopping or later restarting the unit's process steam sales, this would make it much more difficult to determine whether the unit was covered by the program during a given control period and therefore could significantly interfere with administration of the Program.

² PEOC for the boilers is calculated by taking the maximum design heat input capacity of each boiler of 208×10^6 Btu/hr, dividing by 3 (reflecting the assumed efficiency of the unit), dividing by 3,413 (reflecting the assumed heat rate), and dividing by 1,000 (converting to MWe). See 40 CFR part 72, appendix D. One third of PEOC is calculated by multiplying the PEOC by 8,760, the number of hours in a year, and then dividing by 3.

an Acid Rain permit (under Part 72), to monitor and report emissions (under Part 75), and to hold allowances to cover sulfur dioxide emissions (under Parts 72 and 73).

Finally, Units 1, 2, and 3 are simple combustion turbines that commenced commercial operation in 1969. Originally located in Massachusetts, these units were purchased by REU in 1992 and installed in Redding, California in 1993 and 1994. All three units were overhauled after their purchase by REU and before they recommenced commercial operation. For example, while the turbine casing and several other major components of the units were retained, a rewind generator was installed in Unit 1, and new thermoblocks and generator skids were installed in Units 2 and 3. The capacity for Unit 1 remained 18 MW after its overhaul, but the capacities for Units 2 and 3 increased from 18 MW to 27.75 MW after installation of the new thermoblocks. Water injection and selected catalytic reduction were also installed for all three units to reduce nitrogen oxides emissions.

Since Units 1, 2, and 3 are rotary engines driven by gas under pressure that is created by the combustion of natural gas or liquified propane gas and, even after overhaul, do not have auxiliary firing, each unit continues to be a “simple combustion turbine” as defined in §72.2. Under §72.6(b)(1), a simple combustion turbine that commenced commercial operation before November 15, 1990 is not an “existing unit.”

Unit 1, 2, and 3 commenced commercial operation in 1969 and, certainly until they were overhauled, were not “existing units” or “new units,” as defined in §72.2, and so were not subject to the Acid Rain Program. On their face, the definitions of “existing unit” and “new unit” do not reference ownership and location as relevant factors in determining whether a unit is “existing” or “new.” Consequently, the change in ownership and location of Units 1, 2, and 3 in 1992 did not change the units’ status under the Acid Rain Program. However, their overhaul raises the question of whether they should be considered to be different units from what they were before 1992 and therefore as “new” units, i.e., units commencing operation on or after November 15, 1990. While this question is not directly addressed in Title IV of the Clean Air Act or in the Acid Rain Program regulations, U.S. EPA believes that the statute and regulations should be interpreted such that the overhaul of the units in this case does not make them different, and therefore “new,” units.

U.S. EPA notes that the statute and regulations state that an “existing unit” that “is modified, reconstructed, or repowered after November 15, 1990” continues to be an “existing unit.” See 42 U.S.C. 7651a(8); and 40 CFR 72.2 (definition of “existing unit”). Strictly speaking, these provisions do not apply to Units 1, 2, and 3 in this case because, as simple combustion turbines, they are excluded from being “existing” units. *Id.* (stating that “existing units” do not “include simple combustion turbines”). However, just as an “existing unit” -- i.e. a combustion device, other than a simple combustion turbine, that commenced commercial operation before November 15, 1990 -- does not become a different, “new” unit by being modified, reconstructed, or repowered after November 15, 1990, U.S. EPA believes that an analogous approach should be applied to a combustion device that is simple combustion turbine and commenced commercial operation before November 15, 1990. U.S. EPA sees no basis for treating simple combustion turbines in this context differently than other types of combustion devices.

Modification, reconstruction, or repowering after November 15, 1990 of a simple combustion turbine should not make the unit a different, "new" unit.

Further, in this case, the overhaul of Units 1, 2, and 3 seems to fall within the rubric of "modification, reconstruction, or repowering." While the overhaul involved extensive inspection, cleaning, and replacement of various components of the combustion turbines, the original turbine casing - which is the exterior portion of the combustion chamber and the primary structural support for the turbine -- for each unit was retained. Further, except for the thermoblocks, skids, and NOx emission controls that were replaced or added, the major, existing components of the combustion turbines (e.g., the turbine rotor, combustion and compressor hardware, accessory gearbox, lubrication system, pneumatic control system, and cooling system) were retained after inspection, repair, and cleaning and painting. Under these circumstances, U.S. EPA concludes that Units 1, 2, and 3 should continue to be treated as simple combustion turbines commencing commercial operation before November 15, 1990 and therefore as unaffected units.

This determination relies, and is contingent, on the accuracy and completeness of the representations in REU's June 6, 2002 petition and in letters dated April 6, 2001 and August 5 and 28, 2002 and is appealable under Part 78. The applicable regulations require you to send copies of this letter to each owner or operator of Redding (40 CFR 72.6(c)(1)). If you have further questions regarding the Acid Rain Program, please contact Robert Miller of EPA's Clean Air Markets Division at (202) 564-9077.

Sincerely,

/s/ (September 9, 2002)

Peter Tsirigotis, Acting Director
Clean Air Markets Division

cc: Margaret Alkon, U.S. EPA Region 9
Barbara Toole O'Neil, U.S. EPA Region 9